

## **Case Study: S'Klallam Climate Change Initiative - Climate Adaptation Action Plan**

**(Source:** Jamestown S'Klallam Tribe. 2013. Climate Change Vulnerability Assessment and Adaptation Plan. Petersen, S., Bel, J. (eds.) A collaboration of the Jamestown S'Klallam Tribe and Adaptation International [http://www.jamestowntribe.org/programs/nrs/nrs\\_climchg.htm](http://www.jamestowntribe.org/programs/nrs/nrs_climchg.htm))

### Background

The Jamestown S'Klallam Tribe resides on the northeastern portion of the Olympic Peninsula, in northwestern Washington. In recent years, the Tribe has identified climate change as a major concern for their community and has therefore prepared a Climate Vulnerability Assessment and Adaptation Plan to promote the continued resiliency of their community. The Jamestown S'Klallam Tribe developed the Adaptation Plan with support from a U.S. Environmental Protection Agency (EPA) Indian Environmental General Assistance Program (IGAP) grant. The Tribe partnered with Adaptation International, a climate change consulting firm, and Washington Sea Grant, a collaborative project between NOAA and the University of Washington, to develop the plan.

### Problem Statement

The planning process focused on threats related to sea level rise, coastal flooding, temperate increases, reduced precipitation, and ocean acidification. While the process considered a variety of physical, ecological, and socio-economic impacts there was a substantial focus on impacts on living marine resources, particularly salmon, clams and oysters on which the tribe is highly dependent. In addition to concerns about viability of these resources, threats of increased problems with toxic shellfish related to harmful algal blooms (HABs) were a planning focus.

### Planning Process

The project team convened a committee of fifteen tribal elders, staff members, and council members, and held a two-day workshop to work with the climate committee on identifying adaptation priorities and developing adaptation strategies. Adaptation International and Washington Sea Grant provided summaries of a wide range of anticipated climate impacts and the committee then identified and prioritized key areas of concern for the Tribe. This workshop provided opportunities for the committee to share their expertise and led to a multi-disciplinary and refined understanding of the specific climate issues facing the Jamestown S'Klallam Tribe. Primary outcomes from the workshop included selection of key areas of concern and detailed climate vulnerability rankings, based on potential climate exposure, sensitivity (how susceptible an area of concern is to a given climate impact), and adaptive capacity (the ability of that system to adapt to a given climate impact). The vulnerability rankings take into account community input when prioritizing areas of concern. By investigating climate impacts and identifying key areas of concern, the Jamestown S'Klallam Tribe's climate adaptation plan reflects community priorities while also acknowledging the sectors that may be most severely impacted. Viability of salmon, clams and oysters, and shellfish toxin were ranked as very high priority areas of concern.

### Action Plan and Implementation

The action plan includes several action priorities related to living marine resources and seafood.

#### Salmon

- Reduce other stressors on salmon stream habitats including urbanization, sedimentation and pollution.

- Protect Restore streamside habitat vegetation and control erosion.
- Restore connections from flood plains by setting back dikes and other barriers
- Ensure sustainable harvesting of salmon
- Manage hatchery programs to minimize harm to wild stocks

#### Clams and Oysters

- Monitor and improve local water quality
- Ensure sustainable harvesting of clams and oysters and rebuild/restore stocks and shellfish beds
- Use hatcheries to restock areas where native bivalves are limited
- Transplant native bivalves to other areas
- Develop cultural center to enhance understanding of shellfish heritage

#### Shellfish Biotoxins

- Extension and monitoring program to identify predictors of HABs
- Decrease stressors that promote HABs such as high nitrogen and phosphorous loadings from agricultural run-off
- Enhance beach alert system

#### Conclusion

The S'klallam tribe is taking a long-term view toward planning for climate change. The tribe has a strong dependence on living marine resources that reflects not only their importance for livelihoods and nutrition (both of which are highly important) but also a cultural dependence on the shellfish and salmon. This may tend to restrict the tribe's ability or desire to substitute away from threatened resources in terms of consumption and livelihoods and increase the importance of strategies that will protect the viability of these resources.

Next steps were identified as (1) prioritizing adaptation strategies for implementation and identifying individuals or departments responsible for implementation; (2) Building community support for climate preparedness; (2) incorporating climate preparedness into tribal government operations and policy; (4) collaborate with surrounding communities, counties and other key stakeholders to monitor key changes in climate likely to affect the tribe. The planning process took place in 2013. It is not clear what concrete actions have been taken since.